Amendments to the Claims

1. (original) A communication system, comprising:
a multi-channel signal regulation system that limits an aggregate signal in response to an indication that said aggregate signal exceeds a threshold value, said aggregate signal being formed from a plurality of input signals.

2. (original) The communication system of claim 1, wherein said plurality of input signals are subject to constructive interference.

3. (original) The communication system of claim 1, wherein said regulation system limits said aggregate signal by reducing said plurality of input signals to provide a plurality of corrected input signals.

4. (original) The communication system of claim 1, wherein said regulation system further comprises an error signal generator which responds to said composite signal exceeding said threshold value by generating an error signal, said power regulators applying said error signal to said input signals to limit said aggregate signal.

5. (original) The communication system of claim 4, wherein said regulation system applies a weighted allocation factor to said error signal.

6. (original) The communication system of claim 4, wherein said error signal generator generates a desired composite signal with a magnitude limited to said threshold value and in phase with said aggregate signal.

7. (original) The communication system of claim 3, further comprising at least one additional communication system cascaded with said communication system.

8. (original) The communication system of claim 7, wherein said at least one additional communication system limits an aggregate signal formed from said plurality of corrected input signals in response to an indication that said aggregate signal formed from said plurality of corrected input signals exceeds said threshold value.

9. (original) A communication system, comprising:

a plurality of channel power regulators, each sensing a corresponding input signal in a plurality of input signals and reducing said input signal in response to an indication that a composite signal formed from said plurality of input signals exceeds a threshold value.

10. (original) The system of claim 9, wherein said composite signal is formed from the superposition of said plurality of input signals.

11. (original) The system of claim 9, further comprising a threshold detector which detects when said composite signal exceeds said threshold value.

12. (original) The system of claim 11, further comprising an error signal generator which responds to said composite signal exceeding said threshold value by generating an error signal, said power regulators applying said error signal to said input signals to limit said composite signal to said threshold value.

13. (original) The system of claim 12, wherein said plurality of channel power regulators provide an allocation factor, said allocation factor being applied to said error signal.

14. (original) The system of claim 12, wherein said error signal generator generates a desired composite signal with a magnitude limited to said threshold value and in phase with said composite signal.

15. (original) The system of claim 14, wherein said plurality of channel power regulators are coupled to a multi-carrier communication channel.

16. (original) The system of claim 15, wherein said plurality of channel power regulators provide an allocation factor, said allocation factor being applied to said error signal to provide an uncompensated error signal.

17. (original) The system of claim 16, wherein said plurality of channel power regulators combine their corresponding input signals with said desired composite signal to provide respective weighting factors, said weighting factors being applied to said allocation factors.

18. (original) The system of claim 16, wherein said plurality of channel power regulators process their corresponding input signals to provide a channel compensation signal that depends on the frequency response of a respective channel in said communication channel.

19. (original) The system of claim 18, wherein said plurality of channel power regulators combine said channel compensation signal with said uncompensated error signal to form a precompensated error signal.

20. (original) The system of claim 16, wherein said plurality of channel power regulators precompensates said uncompensated error signal by adjusting the magnitude and/or phase of said uncompensated error signal.

21. (original) The system of claim 12, further comprising at least one additional communication system cascaded with said communication system.

22. (original) The system of claim 21, wherein said at least one additional communication system limits an aggregate signal formed from said plurality of corrected input signals in response to an indication that said aggregate signal formed from said plurality of corrected input signals exceeds said threshold value.

23. (original) The system of claim 21, wherein the frequency response of each additional communication system is narrower than that of a previous communication system.

24. (original) The system of claim 21, wherein the frequency response of each communication system is determined by the number of taps in a filter included in each channel power regulator.

25. (original) A transmit signal processor, comprising:
a multi-channel signal regulation system that limits an aggregate signal in response to an indication that said aggregate signal exceeds a predetermined value, said aggregate signal being formed from a plurality of input signals;
a multi-carrier communication channel coupled to said signal regulation system; and
an output stage coupled to said multi-carrier communication channel.

26. (original) The processor of claim 25, wherein said plurality of input signals includes digital data encoded using one of code division multiple access and frequency division multiple access.

27. (original) The processor of claim 25, wherein said output stage includes an amplifier, said predetermined value being determined by a dynamic range of said amplifier.

28. (original) The processor of claim 25, wherein said regulation system includes a threshold detector which detects when said composite signal exceeds said threshold value.

29. (original) The processor of claim of 28, wherein said threshold detector stores successive samples of said composite signal.

30. (original) The processor of claim 25, wherein said regulation system includes an error signal generator which responds to said composite signal exceeding said threshold value by generating an error signal, said power regulators applying said error signal to said input signals to limit said aggregate signal.

31. (original) The processor of claim 30, wherein said regulation system includes:
a channel emulator which emulates the frequency response of a corresponding channel in said multi-carrier communication channel;
an error signal allocator which provides an allocation factor, said allocation factor being applied to said error signal to provide an uncompensated error signal; and
a channel compensator which provides a channel compensation signal that depends on the frequency response of said corresponding channel.

32. (original) The processor of claim 31, wherein said regulation system includes a

memory element which stores successive samples of a corresponding input signal.

33. (original) The processor of claim 31, wherein said channel emulator provides a phase estimate of an oscillator included in said corresponding channel to said channel emulator, said phase estimate being included in said channel compensation signal.

34. (original) The processor regulation system of claim 31, wherein said regulation system combines said channel compensation signal with said uncompensated error signal to form a precompensated error signal.

35. (original) The processor of claim 34, wherein said regulation system outputs one of a corresponding input signal and said corresponding input signal combined with said precompensated error signal.

36. (original) The processor of claim 31, further comprising at least one additional multi-channel signal regulation system cascaded with said communication system.

37. (original) The processor of claim 36, wherein said at least one additional multi - channel signal regulation system limits an aggregate signal formed from a plurality of corrected input signals in response to an indication that said aggregate signal formed f-rom said plurality of corrected input signals exceeds said threshold value.

38. (withdrawn) An error signal generator, comprising:

a circuit which generates an output signal which has a magnitude equal to a threshold value and a phase equal to that of an input signal; and

a signal combiner which generates an error signal proportional to the difference between said input and output signals.

39. (withdrawn) The generator of claim 38, wherein said circuit includes a mapper which determines the in-phase and quadrature components of said input signal.

40. (withdrawn) The generator of claim 39, wherein said mapper determines an angle proportional to the tangent of said in-phase and quadrature components.

41. (withdrawn) The generator of claim 38, wherein said circuit includes a plurality of position selectors which determine the phase closest to the tangent of said in-phase and quadrature components.

42. (withdrawn) The generator of claim 41, further comprising a look-up table which includes phase values that are selected by said plurality of position selectors.

43. (original) A method of adjusting the amplitude of a composite signal in a communication system, said method comprising:

sensing a plurality of input signals;

forming said composite signal from said plurality of input signals;

comparing the magnitude of said composite signal to a predetermined value; and

scaling at least one input signal in said plurality of input signals to reduce said composite signal relative to said predetermined value.

44. (original) The method of claim 43, wherein the step of scaling said input signal includes a step of combining an error signal with each input signal to reduce said composite signal.

45. (original) The method of claim 44, further including a step of adjusting said error signal in response to a difference between the magnitude of said composite signal and said predetermined value.

46. (original) The method of claim 44, wherein the step of combining said error signal with each input signal includes a step of scaling each input signal by the same amount.

47. (original) The method of claim 44, wherein the step of combining said error signal with each input signal includes a step of scaling each input signal by an amount proportional to the magnitude of said corresponding input signal.